Fresenius' Journal of Analytical Chemistry

Continuation of
Fresenius' Zeitschrift
für Analytische Chemie

Editors:

M. Fresenius
L. Lüderwald

In Cooperation with the
Working Party of Analytical Chemistry
of the Federation
of European Chemical Societies
(WPAC/FECS)

Supported by the
Fachgruppe Analytische Chemie
der Gesellschaft Deutscher Chemiker,
represented by
K. Ballschmiter, H. Bode, H. Günzler,
K. G. Heumann, G. Tölg

Volume 353 · 1995

Regional Editor North America

St. A. Wise, Gaithersburg, MD, USA

International Editorial Board

H. J. Ache, Karlsruhe, Germany
D. T. Burns, Belfast, UK
P. De Bièvre, Geel, Belgium
K. Doerffel, Merseburg, Germany
M. Grasserbauer, Wien, Austria
D. M. Hercules, Pittsburgh, PA, USA
G. M. Hieftje, Bloomington, IN, USA
G.-A. Hoyer, Berlin, Germany
A. Hulanicki, Warszawa, Poland
S. Ikeda, Suta, Japan
R. Kellner, Wien, Austria
H. Kriegsmann, Berlin, Germany
R. Niessner, München, Germany
L. Niinistö, Espoo, Finland
M. Valcárcel, Cordoba, Spain
P. G. Zambonin, Bari, Italy
Yu. A. Zolotov, Moscow, Russia

Advisory Board

A. Benninghoven, Münster, Germany
B. A. Bidlingmeyer, Collegeville, PA, USA
C. Cámara, Madrid, Spain
K. Cammann, Münster, Germany
K. Danzer, Jena, Germany
G. Gauglitz, Tübingen, Germany
Y. Gohshi, Tokyo, Japan
E. H. Hansen, Lyngby, Denmark
T. Imasaka, Fukuoka, Japan
E. Jellum, Oslo, Norway
H. M. Kingston, Pittsburgh, PA, USA
E. Lindner, Budapest, Hungary
H. Malissa, Salzburg, Austria
H. Oechsner, Kaiserslautern, Germany
H. M. Ortner, Darmstadt, Germany
M. Otto, Freiberg, Germany
B. Salbu, Aas-NLH, Norway
B. Spivakov, Moscow, Russia
K. Stulik, Prague, Czech Republic
J. F. van Staden, Pretoria, South Africa
B. G. M. Vandeginste, Vlaardingen, The Netherlands
B. Welz, Überlingen, Germany
B. Wenclawiak, Siegen, Germany
O. S. Wolfbeis, Graz, Austria

Springer

Fresenius' Journal of Analytical Chemistry

Continuation of Fresenius' Zeitschrift für Analytische Chemie

Begründet 1862 und herausgegeben bis Band 20 (1881) von *C. Remigius Fresenius,* bis Band 36 (1897) von *C. Remigius* und *Heinrich Fresenius,* Band 37–58 herausgegeben von *Heinrich* und *Wilhelm Fresenius* und *Ernst Hintz,* Band 59 (1920) bis Band 105 von *Wilhelm, Remigius* und *Ludwig Fresenius,* Band 105 (1936) von *Remigius* und *Ludwig Fresenius,* Band 106 bis 127 (1944) von *Remigius Fresenius,* Band 128 (1948) herausgegeben von *A. Kurtenacker,* Band 129 (1949) bis Band 187 (1962) von *W. Fresenius* und *A. Kurtenacker,* Band 188 (1962) bis Band 310 (1982) von *W. Fresenius* und ab Band 311 (1982) von *W. Fresenius* und *I. Lüderwald.*

Bis Band 59 (1919) Wiesbaden, C. W. Kreidel, Band 59–62 (1922) Wiesbaden, C. W. Kreidel, und München, J. F. Bergmann, Band 63–127 (1944) München, J. F. Bergmann, ab Band 128 (1948) Berlin, Springer, und München, Bergmann, ab Band 332 (1988/89) Berlin Heidelberg New York, Springer.

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, expressed or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA

Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0937-0633, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Springer-Verlag, Berlin Heidelberg New York London Paris Tokyo

Printed in Germany by Schneider Druck GmbH, Rothenburg ob der Tauber

© Springer-Verlag, Berlin Heidelberg 1995

Contents of volume 353

Editorials

Krause P → Prange A

Oechsner H: 8. Arbeitstagung Oberflächenanalytik (AOFA 8) 225

Prange A, Wilken R-D, Krause P: Symposium "Stand der Spurenstoffanalytik an der Elbe" ("Present Status of Trace Analysis of the River Elbe") 1

Wilken R-D → Prange A

Original papers

Ache HJ → Bentz JWG
Ache HJ → Goschnick J
Adamczewski J, Röcken H, Meijer J, Stephan A, Bukow HH, Rolfs C, Bruhn F: Analytical techniques with a nuclear microprobe 585
Adolphi B → Preuß A
Alers P → Scheibe H-J
Ambos R → Rädlein E
Ambos R, Rädlein E, Frischat GH: Surface analysis of sol-gel coatings on glass by secondary neutral mass spectrometry 614
Anjaiah KV → Balaram V
Anton B → Schulz U
Atamny F, Baiker A, Muhr H-J, Nesper R: AFM and XRD investigation of crystalline vapor-deposited C_{60} films 433
Atamny F → Becht M
Atamny F → Göbel U
Athenstaedt W, Leisch M: Three-dimensional atom probe study of the segregation behaviour of Ni91Pt9 alloy after sputtering 753

Bäcker R, Hörz G: Scanning tunneling microscopic investigations of the adsorption and segregation of carbon and sulfur on nickel single crystal surfaces 757
Baiker A → Atamny F
Baiker A → Becht M
Balaram V, Ramesh SL, Anjaiah KV: Comparitive study of the sample decomposition procedures in the determination of trace and rare earth elements in anorthosites and related rocks by ICP-MS 176
Bange K: Characterization of oxide coatings on glass 240
Bansmann J → Getzlaff M
Barbosa J, Sanz-Nebot V: Assignment of reference pH-values to primary standard buffer solutions for standardization of potentiometric sensors in acetonitrile-water mixtures 148
Bauer HE: A fast and simple method for background removal in Auger electron spectroscopy 450
Bauer S → Holzbrecher H
Baumann H → Markwitz A
Baumann H → Michelmann RW
Baumann H → Theodossiu W
Baumann W, Weise K, Marx G: Influence of different correction models on investigations of carbonaceous insulating films by electron beam X-ray microanalysis 655
Baumbach R → Bruns I
Baumgärtner H → Ren J
Becht M, Dahmen K-H, Atamny F, Baiker A: Surface morphology and electrical properties of copper thin films prepared by MOCVD 718
Becker JS → Breuer U
Becker J-S → Clemens D
Becker JS → Gastel M
Becker JS → Holzbrecher H
Becker JS → Saprykin AI
Beckers L → Holzbrecher H
Behrisch R → Grigull S
Benninghoven A → Bentz JWG
Bensch W → Göbel U
Bentz JWG, Goschnick J, Schuricht J, Ache HJ: Depth-resolved investigation of the element and compound inventory of aerosol particles from outdoor air 559
Bentz JWG, Goschnick J, Schuricht J, Ache HJ, Zehnpfennig J, Benninghoven A: Analysis and classification of individual outdoor aerosol particles with SIMS time-of-flight mass spectrometry 603
Berg AHJ van den → Lisowski W
Berg G → Stobiecki T
Bergmaier A → Dollinger G
Bergmaier A, Dollinger G, Frey CM, Faestermann T: Quantitative elastic recoil detection (ERD) 582
Berthold W → Wahl M
Bethge K → Markwitz A
Bethge K → Michelmann RW
Bethge K → Theodossiu W
Bethke R → Willich P
Beyer B → Oswald S
Bieck W, Gnaser H, Oechsner H: Analysis of solids with a secondary-neutral microprobe based on electron-gas postionization 324
Biedermann A, Schmid M, Reichl BM, Varga P: Competitive segregation of Si and P on $Fe_{96.5}Si_{3.5}$ (100) and (110) 259
Bock W, Kopnarski M, Oechsner H: High resolution depth profiling of non-conducting samples with SNMS 510
Böhmig SD → Brandl KW
Böhmig SD, Brandl KW, Reichl BM, Störi H: A multisource image processing environment in surface analysis 609
Böhmig SD, Schmid M, Störi H: Deconvolution of STM images using entropy as a regularization functional 439
Börner H, Hochmuth H, Schurig T, Quan Z, Lorenz M: Optimization of large area pulsed laser deposition of YBaCuO thin films by SNMS depth profiling and Rutherford backscattering 619
Bolwin K → Schulze M
Bombach G → Klemm W
Bongartz K → Clemens D
Bormann G → Gandraß J
Born D → Lippitz A
Borucki L → Bubert H
Bourauel C → Fries T
Bouveresse E → Fuchs GM
Brandl KW → Böhmig SD
Brandl KW, Böhmig SD, Dreschler G, Reichl BM, Störi H: Data management in multi-method surface analysis 443
Brauch H-J → Fichtner S
Brauch H-J → Pietsch J
Breuer U → Gastel M
Breuer U → Holzbrecher H
Breuer U, Holzbrecher H, Gastel M, Becker JS, Dietze H-J: Comparative studies of MCs^+-SIMS and e^--beam SNMS for quantitative analysis of bulk materials and layered structures 372
Britton DT → Uhlmann K
Broekaert JAC → Resch R
Bruhn F → Adamczewski J

14 576HI XL 1029 11/96 31249-75 NULB

Brunetto MR → Rondón C
Bruns I, Siebert A, Baumbach R, Miersch J, Günther D, Markert B, Krauß G-J: Analysis of heavy metals and sulphur-rich compounds in the water moss *Fontinalis antipyretica* L. ex Hedw. 101
Brusa RS → Uhlmann K
Bubert H → Garten RPH
Bubert H, Grallath E, Quentmeier A, Wielunski M, Borucki L: Comparative investigation on copper oxides by depth profiling using XPS, RBS and GDOES 456
Buchal C → Holzbrecher H
Bukow HH → Adamczewski J
Burguera JL → Rondón C
Burguera M → Rondón C
Busch W-B → Schlett V

Cerdà V → Mateu J
Claus E → Heininger P
Clemens D, Bongartz K, Quadakkers WJ, Nickel H, Holzbrecher H, Becker J-S: Determination of lattice and grain boundary diffusion coefficients in protective alumina scales on high temperature alloys using SEM, TEM and SIMS 267
Colom-Altés M → Mateu J
Conradi T → Stobiecki T
Cornelis R → Zhang X

Däbritz S, Hauffe W: Characterization of Cu-Sn/Pb diffusion zones of microelectronic contacts by means of electron probe microanalysis and ion beam sputtering 271
Dahmen K-H → Becht M
De Kimpe J → Zhang X
Denkhaus E, Golloch A, Kuß H-M: Determination of gaseous nitrogen in gas mixtures using low pressure microwave induced plasma emission spectrometry 156
Dennert R, Grabke HJ, Viefhaus H: Influence of N, C and S on the initial stage of oxidation of Fe-20Cr single crystals 678
Dickhoven HP → Sommer D
Dieckhoff S → Gesang T
Dieckhoff S, Schlett V, Possart W, Hennemann O-D: XPS studies of thin polycyanurate films on silicon wafers 278
Dietsch R, Holz T, Hopfe S, Mai H, Scholz R, Schöneich B, Wendrock H: Characterization of ultra-smooth interfaces in Mo/Si-multilayers 383
Dietsch R → Krawietz R
Dietze H-J → Breuer U
Dietze H-J → Gastel M
Dietze H-J → Holzbrecher H
Dietze H-J → Saprykin AI
Dittrich K, Lohse M, Walther A, Hanisch C: Determination of heavy metals in suspended matter in the storage lake "Bitterfelder Muldestausee" 16
Dolének P → Medek J
Dollinger G → Bergmaier A
Dollinger G, Bergmaier A, Faestermann T, Frey CM: High resolution depth profile analysis by elastic recoil detection with heavy ions 311
Drescher D → Fries T
Drescher D → Scheibe H-J
Dreschler G → Brandl KW
Durán-Merás I → Muñoz de la Peña A

Ebel H → Fischer H
Ebel H, Zagler N, Svagera R, Ebel M, Kaitna R: Quantitative surface analysis by total electron yield 348
Ebel M → Ebel H
Ebel MF → Fischer H
Ebner I → Reimann I
Ecke G → Kupris G
Ecke G → Wöhner T
Edelmann C → Garke B
Ehrhardt H → Scherer J
Ehrt M → Garke B

Eisl MM → Reichl BM
Eisl MM, Reichl BM, Störi H: Model calculations of temperature programmed surface segregation 766
Elsholz O, Schulze G: Ion exchange micro columns for on-line preconcentration of heavy metals. II. On-line break-through test for zinc, cadmium and lead 119
Elsholz O → Stachel B
Endler I → Klosowski J
Erbslöh B → Krause P

Faestermann T → Bergmaier A
Faestermann T → Dollinger G
Faldum T, Meisel W, Gütlich P: Investigation of structure, stability, phase composition and magnetic ordering in ultrathin iron/nickel films 723
Falter R, Schöler HF: Determination of mercury species in natural waters at picogram level with on-line RP C18 preconcentration and HPLC-UV-PCO-CVAAS 34
Fester A → Göbel U
Fichtner M → Goschnick J
Fichtner S, Lange FT, Schmidt W, Brauch H-J: Determination of aromatic sulfonates in the river Elbe by on-line ion-pair extraction and ion-pair chromatography 57
Fichtner S → Pietsch J
Fischer H, Svagera R, Ebel H, Ebel MF, Schoßmann B: Depth profiling by ARXPS in surface analysis 473
Fleuster M → Holzbrecher H
Forcht K → Joerger R
Forkel K → Lippitz A
Forteza R → Mateu J
Francke W → Franke S
Franke C, Weil L, Niessner R: Extraction of mono- and dicarboxylic acids from a curative water 203
Franke S, Hildebrandt S, Schwarzbauer J, Link M, Francke W: Organic compounds as contaminants of the Elbe river and its tributaries. Part II: GC/MS screening for contaminants of the Elbe water 39
Freiling A → Krummel C
Frenzel W, Rauterberg-Wulff A, Schepers D: Serial potentiometric and conductometric detection in fast non-suppressed ion chromatography applied to the analysis of filter collected airborne particulates 123
Frey CM → Bergmaier A
Frey CM → Dollinger G
Friedbacher G → Fuchs GM
Friedbacher G → Prohaska T
Friedbacher G → Resch R
Friedbacher G → Schmitz I
Fries T, Bourauel C, Drescher D, Plietsch R: Surface structure and roughness of nickel-titanium wires 427
Frischat GH → Ambos R
Frischat GH → Rädlein E
Fuchs GM, Friedbacher G, Schwarzbach D, Bouveresse E, Prohaska T, Grasserbauer M, Haubner R, Lux B: AFM investigation of silicon substrates for chemical vapour deposition of diamond films 698
Fürbeth W → Reinartz C
Fürbeth W, Stratmann M: Investigation of the delamination of polymer films from galvanized steel with the Scanning Kelvin-probe 337
Fujita Y → Mori I
Fukuda M → Sayama Y

Gählert W → Theobald N
Gallignani M → Rondón C
Gandraß J, Bormann G, Wilken R-D: N-/P-pesticides in the Czech and German part of the river Elbe – Analytical methods and trends of pollution 70
Garke B, Ehrt M, Edelmann C: Characterization of surface modifications of stainless steel samples after electron and ion bombardment by SEM, AES, and XPS 552

Garten RPH, Bubert H: Quantitative Auger electron spectrometric depth profile analysis of binary alloy reference materials 351
Gastel M → Breuer U
Gastel M, Breuer U, Holzbrecher H, Becker JS, Dietze H-J, Kubon M, Wagner H: Quantitative determination of element distributions in silicon based thin film solar cells using SNMS 478
Gastel M → Holzbrecher H
Gauckler LJ → Moser EM
Gawlik D → Negretti de Brätter VE
Gesang T, Höper R, Dieckhoff S, Hartwig A, Possart W, Hennemann O-D: Prepolymer film growth by adsorption out of solution on silicon and aluminium. An atomic force microscopic study 419
Getzlaff M, Bansmann J, Schönhense G: Oxygen on Fe(100) and Fe(110) 743
Getzlaff M, Bansmann J, Schönhense G: Adsorbates on thin iron(100) films 748
Gilsbach W → Specht W
Gnaser H → Bieck W
Gnaser H → Haag M
Göbel U, Atamny F, Bensch W, Fester A, Schubert H, Schlögl R: Quantitative aspects of the desorption of copper from the silicon (100) surface 320
Göpel W → Oeter D
Golloch A → Denkhaus E
Gombert A → Joerger R
Goschnick J → Bentz JWG
Goschnick J, Fichtner M, Schneider T, Ache HJ: Rapid determination of erosion rates with electron beam SNMS 598
Goschnick J, Sommer M, Ache HJ: Accuracy of the elemental quantification with plasma-based SNMS for complex environmental material 548
Grabke HJ → Dennert R
Grabke HJ → Maier MR
Grabke HJ → Uebing C
Graf W → Joerger R
Grallath E → Bubert H
Grasserbauer M → Fuchs GM
Grasserbauer M → Prohaska T
Grasserbauer M → Resch R
Grasserbauer M → Schmitz I
Grasserbauer M → Wilhartitz P
Grigull S, Behrisch R, Kreissig U, Harz M: Simultaneous analysis of low-Z impurities in the near-surface region of solid materials by heavy ion elastic recoil detection (HIERD) 578
Grill W → Markwitz A
Grübmeier H, Naoumidis A, Stochniol G, Tsoga A: EPMA of interfaces applied to the solid oxide fuel cell 393
Grunenberg D, Sommer D, Koch KH: "HFM", the universal sputter method in SNMS analytics 514
Gülzow E → Schulze M
Günther D → Bruns I
Gütlich P → Faldum T
Guoxiong Z → Peilin Z

Haag M, Gnaser H, Oechsner H: MCs^+ secondary ion and sputtering yields of oxygen-exposed semiconductors and glasses 565
Haage T, Schmidt UI, Schröder B, Oechsner H: Modelling the dielectric function of thin films measured by spectroscopic ellipsometry: determination of microstructure and density 556
Haanappel VAC → Lisowski W
Haarer D → Sauer G
Halbritter J → Michel H-J
Hanisch C → Dittrich K
Hartwig A → Gesang T
Harz M → Grigull S
Haubner R → Fuchs GM
Hauffe W → Däbritz S
Hayashibe Y → Sayama Y
Heininger P, Claus E: Determination of organic sulphur compounds in sediments of the river Elbe using gas chromatography with flame photometric detection 88
Heinz B → Markwitz A
Heinzel A → Joerger R
Hennemann O-D → Dieckhoff S
Hennemann O-D → Gesang T
Heumann KG → Wimschneider A
Hildebrandt S → Franke S
Hochmuth H → Börner H
Höcker H → Thelen H
Höper R → Gesang T
Hörz G → Bäcker R
Hofer W, Mezey Z: Application of an improved thermodynamic description of multilayer surface compositions of binary alloys 631
Hofmann S → Kupris G
Hofmann S → Wöhner T
Holz T → Dietsch R
Holzbrecher H → Breuer U
Holzbrecher H, Breuer U, Gastel M, Becker JS, Dietze H-J, Beckers L, Bauer S, Fleuster M, Zander W, Schubert J, Buchal C: Quantitative SIMS-analysis of erbium profiles in $LiNbO_3$ 785
Holzbrecher H → Clemens D
Holzbrecher H → Gastel M
Hopfe S → Dietsch R
Hopfe S → Krawietz R
Hubschmid C, Landolt D, Mathieu HJ: XPS and AES analysis of passive films on Fe-25Cr-X (X = Mo, V, Si and Nb) model alloys 234
Hund M → Sauer G
Hutter H → Reichl BM
Hutter H → Wilhartitz P

Jakobs S → Schulz U
Jaksch H, Martin JP: High-resolution, low-voltage SEM for true surface imaging and analysis 378
Jantzen E, Prange A: Organometallic species of the elements tin, mercury and lead in sediments of the longitudinal profile of the River Elbe 28
Jerzycki-Brandes K → Theobald N
Joerger R, Forcht K, Gombert A, Graf W, Heinzel A, Köhl M, Weimar U: Analysis of the morphology and the optical properties of sputtered molybdenum particles 713
John A: Surface and in-depth characterization of TiC/C and Ti(C,N) layers by means of AES and factor analysis 468
Jung K → Scherer J
Jung KG, Schultze JW, Robinson KS, Schmiedel H: Low energy ion implantation in polybithiophene: microstructuring and microanalysis 282

Kaiser N → Schulz U
Kaitna R → Ebel H
Kanniainen T → Resch R
Karg S → Sauer G
Karwasz G → Uhlmann K
Kaufmann R → Thelen H
Kelleter J → Krummel C
Kettrup A → Oxynos K
Kilo M → Sauer G
Klee D → Thelen H
Klemm W, Bombach G: Trace element determination in contaminated sediments and soils by ultrasonic slurry sampling and Zeeman graphite furnace atomic absorption spectrometry 12
Klosowski J, Endler I, Leonhardt A, Schläfer D: Investigations on microstructure, composition and properties of PECVD TiN_x-coatings 702

Klotzbücher T → Wesner DA
Koch D → Wahl M
Koch KH → Grunenberg D
Kögel G → Uhlmann K
Köhl M → Joerger R
Kohl CD → Krummel C
Kolitsch A → Scheibe H-J
Kopnarski M → Bock W
Kraegermann S → Stobiecki T
Krauß G-J → Bruns I
Krause P, Erbslöh B, Niedergesäß R, Pepelnik R, Prange A: Comparative study of different digestion procedures using supplementary analytical methods for multielement-screening of more than 50 elements in sediments of the river Elbe 3
Krawietz R, Wehner B, Meyer D, Richter K, Mai H, Dietsch R, Hopfe S, Scholz R, Pompe W: Investigation of the thermal stability of Ni/C multilayers by X-ray methods 246
Kreissig U → Grigull S
Kreutz EW → Wesner DA
Krimmel EF → Markwitz A
Krimmel EF → Michelmann RW
Krismer R → Wilhartitz P
Krummel C, Freiling A, Schmidt R, Kelleter J, Wollnik H, Kohl CD: Induced zinc desorption from zinc oxide during exposure to a reducing agent 521
Krupicka S → Medek J
Kubon M → Gastel M
Kuch W → Schulze M
Kunz C, Voss J: Microscopy and microspectroscopy with soft X-rays 494
Kunze J → Oswald S
Kupris G, Rößler H, Ecke G, Hofmann S: Interpretation of sputter depth profiles by mixing simulations 307
Kurz H → Schütze M
Kuß H-M → Denkhaus E

Landolt D → Hubschmid C
Lange FT → Fichtner S
Lange PJ de, Mahy JWG: ToF-SIMS and XPS investigations of fibers, coatings and biomedical materials 487
Lange W → Theobald N
Laube M, Rauch F: Temperature-induced changes in the composition of floatglass surfaces 408
Leisch M → Athenstaedt W
Leisch M: Position sensitive atom probe study of segregation in molybdenum alloys 251
Leiste H → Michel H-J
Lenk A, Witke T: In situ investigation of laser ablation 333
Leonhardt A → Klosowski J
Leskelä M → Resch R
Ließ H-D → Ren J
Lindroos S → Resch R
Link M → Franke S
Lippitz A, Forkel K, Born D, Stodolski R: Investigation on structure and morphology of the thermally treated glassy alloy $(Fe,Cr)_{80}(P,C,Si)_{20}$ by means of ESCA and SEM/EDXA 634
Lisowski W, Berg AHJ van den, Smithers M, Haanappel VAC: Characterization of thin alumina films prepared by metal-organic chemical vapour deposition (MOCVD) by high resolution SEM, (AR)XPS and AES depth profiling 707
Lochovsky P → Medek J
Lösch R → Prohaska T
Lohse M → Dittrich K
Lorenz M → Börner H
Lustig S → Schramel P
Lux B → Fuchs GM

Mäckel R → Ren J
Mahy JWG → Lange PJ de
Mai H → Dietsch R
Mai H → Krawietz R
Maier MR, Viefhaus H, Grabke HJ: Scanning Auger analysis for the clarification of oxidation and interdiffusion processes during laser ablation of $YBa_2Cu_3O_{7-x}$ on alloy/oxide substrates 675
Markert B → Bruns I
Markwitz A, Baumann H, Grill W, Heinz B, Röseler A, Krimmel EF, Bethge K: Surface-near analyses of ultra thin silicon nitride layers by NRA, channeling RBS, FTIR ellipsometry and AFM 734
Markwitz A → Michelmann RW
Markwitz A → Theodossiu W
Marth P → Oxynos K
Martin JP → Jaksch H
Martinez Galera M → Muñoz de la Peña A
Marx G → Baumann W
Mateu J, Forteza R, Cerdà V, Colom-Altés M: Particle size distribution of major inorganic species in atmospheric aerosols from Majorca (Spain) 197
Mathieu HJ → Hubschmid C
Matsuo T → Mori I
Medek J, Dolének P, Vilímec J, Krupicka S, Lochovsky P, Vymazalová E: Improvement, quality assurance and analytical results on the river Elbe contamination in the Czech Republic 64
Mees L → Zhang X
Meier M → Sauer G
Meijer J → Adamczewski J
Meisel W → Faldum T
Melchers F-G → Saprykin AI
Melzer W → Paulus H
Menéndez García A, Pérez Rodríguez MC, Sánchez Uria JE, Sanz-Medel A: Sb(III) and Sb(V) separation and analytical speciation by a continuous tandem on-line separation device in connection with inductively coupled plasma atomic emission spectrometry 128
Mensch A → Scheibe H-J
Mergemeier S → Reimann I
Metzger M → Moser EM
Meyer D → Krawietz R
Meyer H → Sauer G
Meyer JD → Michelmann RW
Mezey Z → Hofer W
Michel H-J, Leiste H, Nold E, Halbritter J: Interface studies on magnetron-sputtered SnO_2-films 625
Michelmann RW, Baumann H, Markwitz A, Meyer JD, Röseler A, Krimmel EF, Bethge K: Combined NRA, channeling-RBS and FTIR ellipsometry analyses for the determination of the interface and bonding state of thin SiO_x and SiN_xO_y layers 403
Miersch J → Bruns I
Moreno MD → Muñoz de la Peña A
Mori I, Taguchi K, Fujita Y, Matsuo T: Improved spectrophotometric determination of uranium(VI) with 4-(2-pyridylazo)-resorcinol in the presence of benzyldimethylstearyltrimethylammonium chloride 174
Moser EM, Metzger M, Gauckler LJ: SAM/AES analysis of grain boundaries in zirconia ceramics 684
Muhr H-J → Atamny F
Müller K-H → Paulus H
Muñoz de la Peña A, Durán-Merás I, Moreno MD, Salinas F, Martinez Galera M: Simultaneous fluorimetric determination of acetylsalicylic acid metabolites in urine by partial least squares multivariate calibration 211

Naoumidis A → Grübmeier H
Neelmeijer C → Wagner W
Negretti de Brätter VE, Recknagel S, Gawlik D: Speciation of Se, Fe and Zn in Human Milk Whey: The use of Instrumental Neutron Activation Analysis (INAA) to corroborate element profiles measured with Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES) 137
Nesper R → Atamny F

Nickel H → Clemens D
Nickel H → Prohaska T
Niedergesäß R → Krause P
Niessner R → Franke C
Niinistö L → Resch R
Nold E → Michel H-J

Oechsner H → Bieck W
Oechsner H → Bock W
Oechsner H → Haag M
Oechsner H → Haage T
Oechsner H → Rothhaar U
Oeter D, Ziegler C, Göpel W: HREELS to identify electronic structures of organic thin films 360
Ortner HM → Wilhartitz P
Oswald S, Beyer B, Kunze J: Titanium distributions in zone melted materials measured by SIMS 342
Oxynos K, Schramm K-W, Marth P, Schmitzer J, Kettrup A: Chlorinated hydrocarbons- (CHC) and PCDD/F-levels in sediments and breams *(Abramis brama)* from the river Elbe (contribution to the German Environmental Specimen Banking) 98

Paulus H, Müller K-H, Melzer W, Peine H-W, Thier B, Weisgerber A: Applications of *SNMS* in archaeometry 369
Peilin Z, Guoxiong Z: Electrochemical characterization of boron-doped polycrystalline diamond thin-film electrodes 171
Peine H-W → Paulus H
Pelz S → Specht W
Pepelnik R → Krause P
Pérez Rodríguez MC → Menéndez García A
Petit de Peña Y → Rondón C
Pfleging W → Wesner DA
Pietsch J, Schmidt W, Sacher F, Fichtner S, Brauch H-J: Pesticides and other organic micro pollutants in the river Elbe 75
Pignataro S: Surface analysis in microelectronics 227
Plietsch R → Fries T
Pompe W → Krawietz R
Possart W → Dieckhoff S
Possart W → Gesang T
Prange A → Jantzen E
Prange A → Krause P
Preuß A, Adolphi B, Wegener T: The kinetic of the oxidation of InSn48 399
Procop M, Wandel K, Verucchi R: Ex-situ XPS-investigation of the interface between PE-CVD SiO_2 and wet chemically etched MO-CVD epitaxial layers of $In_{0.53}Ga_{0.47}As$ 647
Prohaska T, Friedbacher G, Grasserbauer M, Nickel H, Lösch R, Schlapp W: In-situ investigation of surface processes on AlGaAs/GaAs cleavage edges as studied by atomic force microscopy 670
Prohaska T → Fuchs GM
Prohaska T → Resch R
Prohaska T → Schmitz I

Quadakkers WJ → Clemens D
Quan Z → Börner H
Quentmeier A → Bubert H

Rädlein E → Ambos R
Rädlein E, Ambos R, Frischat GH: Atomic force microscopy of coated glasses 413
Ramesh SL → Balaram V
Rauch F → Laube M
Rauh M, Wißmann P: Optical and electrical measurements on CO_2 covered copper films 769
Rauterberg-Wulff A → Frenzel W
Rave A → Theobald N
Recknagel S → Negretti de Brätter VE
Reichl BM → Biedermann A
Reichl BM → Böhmig SD
Reichl BM → Brandl KW
Reichl BM → Eisl MM
Reichl BM, Eisl MM, Weis T, Hutter H, Störi H: SAM investigations of temperature programmed surface segregation of impurities in α-iron 762
Reimann I, Mergemeier S, Ebner I, Scholz F: Application of the photoionization detector for the determination of ethanol in aqueous solutions and human breath 206
Reinartz C, Fürbeth W, Stratmann M: Adsorption and characterization of molecular adhesion promoter monolayers on iron surfaces under UHV conditions 657
Reincke H → Stachel B
Reißner R → Schulze M
Ren J, Ließ H-D, Mäckel R, Baumgärtner H: Scanning Kelvin Microscope: a new method for surface investigations 303
Renner F → Theobald N
Resch R, Prohaska T, Friedbacher G, Grasserbauer M, Kanniainen T, Lindroos S, Leskelä M, Niinistö L, Broekaert JAC: In-situ investigation of ZnS deposition on mica by successive ionic layer adsorption and reaction method as studied with atomic force microscopy 772
Richter K → Krawietz R
Rieß W → Sauer G
Robinson KS → Jung KG
Röcken H → Adamczewski J
Röder A → Schneider R
Röll K → Stobiecki T
Röseler A → Markwitz A
Röseler A → Michelmann RW
Rößler H → Kupris G
Rößler H → Wöhner T
Rohwerder M → Vago ER
Rohwerder M → Weldige K de
Rolfs C → Adamczewski J
Rondón C, Burguera JL, Burguera M, Brunetto MR, Gallignani M, Petit de Peña Y: Selective determination of antimony(III) and antimony(V) in liver tissue by microwave-assisted mineralization and hydride generation atomic absorption spectrometry 133
Rothhaar U, Oechsner H: Determination of diffusion induced concentration profiles in Cr_2O_3 films on ceramic Al_2O_3 by Auger sputter depth profiling 533

Sacher F → Pietsch J
Salinas F → Muñoz de la Peña A
Sánchez Uria JE → Menéndez García A
Sanz-Medel A → Menéndez García A
Sanz-Nebot V → Barbosa J
Saprykin AI, Melchers F-G, Becker JS, Dietze H-J: Radio-frequency glow discharge ion source for high resolution mass spectrometry 570
Sauer G, Kilo M, Hund M, Wokaun A, Karg S, Meier M, Rieß W, Schwoerer M, Suzuki H, Simmerer J, Meyer H, Haarer D: Characterization of polymeric light emitting diodes by SIMS depth profiling analysis 642
Sayama Y, Hayashibe Y, Fukuda M: Determination of cadmium and bismuth in high-purity zinc metal by inductively coupled plasma mass spectrometry with on-line matrix separation 162
Scheibe H-J, Drescher D, Alers P: Raman characterization of amorphous carbon films 695
Scheibe H-J, Drescher D, Kolitsch A, Mensch A: Investigation of surface topography, morphology and structure of amorphous carbon films by AFM and TEM 690
Scheithauer U: Examples for the improvements in AES depth profiling of multilayer thin film systems by application of factor analysis data evaluation 464
Schepers D → Frenzel W
Scherer J, Jung K, Ehrhardt H: Interfacial reactions in chromium-carbon multilayers 506

Scherübl T, Thomas LK: Investigation of high-temperature oxidation of metals by infrared-reflection absorption spectroscopy (IRAS) 589
Schläfer D → Klosowski J
Schlapp W → Prohaska T
Schlett V, Busch W-B: AES investigations of the hot cracking of an electron-beam welded nickel-base alloy for turbine disks 544
Schlett V → Dieckhoff S
Schlögl R → Göbel U
Schmid M → Biedermann A
Schmid M → Böhmig SD
Schmidt R → Krummel C
Schmidt UI → Haage T
Schmidt W → Fichtner S
Schmidt W → Pietsch J
Schmiedel H → Jung KG
Schmitz I, Prohaska T, Friedbacher G, Schreiner M, Grasserbauer M: Investigation of corrosion processes on cleavage edges of potash-lime-silica glasses by atomic force microscopy 666
Schmitzer J → Oxynos K
Schneider R, Woltersdorf J, Röder A: Characterization of the chemical bonding in inner layers of composite materials 263
Schneider T → Goschnick J
Schnurnberger W → Schulze M
Schöler HF → Falter R
Schöneich B → Dietsch R
Schönhense G → Getzlaff M
Schöpke A → Sieber I
Scholtes J: Applications of work function microscopy in the onset mode 499
Scholz F → Reimann I
Scholz R → Dietsch R
Scholz R → Krawietz R
Schoßmann B → Fischer H
Schramel P, Wendler I, Lustig S: Capability of ICP-MS (pneumatic nebulization and ETV) for Pt-analysis in different matrices at ecologically relevant concentrations 115
Schramm K-W → Oxynos K
Schreiner M → Schmitz I
Schröder B → Haage T
Schröder HF: Polar organic compounds in the river Elbe. Development of optimized concentration methods using substance-specific detection techniques 93
Schubert H → Göbel U
Schubert J → Holzbrecher H
Schütze M, Trappe C, Tabellion M, Kurz H: Surface analysis using ultrashort laser pulses and time-of-flight mass spectrometry 575
Schultze JW → Jung KG
Schulz U, Jakobs S, Anton B, Kaiser N: Formation of surface defects on polymer lenses depending on moisture absorption 740
Schulze G → Elsholz O
Schulze M, Bolwin K, Gülzow E, Schnurnberger W: XPS analysis of PTFE decomposition due to ionizing radiation 778
Schulze M, Reißner R, Bolwin K, Kuch W: Interaction of water with clean and oxygen precovered nickel surfaces 661
Schuricht J → Bentz JWG
Schurig T → Börner H
Schwarzbach D → Fuchs GM
Schwarzbauer J → Franke S
Schwoerer M → Sauer G
Selle B → Sieber I
Sieber I, Schöpke A, Selle B: Comparative composition analysis of SiO_x and SiN_x thin films by AES, EDX and RBS 639
Siebert A → Bruns I
Simmerer J → Sauer G
Smithers M → Lisowski W
Sommer D, Dickhoven HP: Surface analysis on industrial surfaces – now comparable 541
Sommer D → Grunenberg D
Sommer M → Goschnick J
Specht W, Pelz S, Gilsbach W: Gas-chromatographic determination of pesticide residues after clean-up by gel-permeation chromatography and mini-silica gel-column chromatography. 6. Communication: Replacement of dichloromethane by ethyl acetate/cyclohexane in liquid–liquid partition and simplified conditions for extraction and liquid–liquid partition 183
Sperr P → Uhlmann K
Stachel B, Elsholz O, Reincke H: Investigations on sample pretreatment for the determination of selected metals and organochlorine compounds in suspended particulate matter of the River Elbe 21
Stephan A → Adamczewski J
Stobiecki F → Stobiecki T
Stobiecki T, Stobiecki F, Conradi T, Kraegermann S, Röll K, Berg G: RFA as control method of the reactive sputtering process of TiN films 536
Stochniol G → Grübmeier H
Stodolski R → Lippitz A
Störi H → Brandl KW
Störi H → Böhmig SD
Störi H → Eisl MM
Störi H → Reichl BM
Stratmann M → Fürbeth W
Stratmann M → Reinartz C
Stratmann M → Vago ER
Stratmann M → Weldige K de
Suzuki H → Sauer G
Svagera R → Ebel H
Svagera R → Fischer H

Tabellion M → Schütze M
Taguchi K → Mori I
Thelen H, Kaufmann R, Klee D, Höcker H: Development and characterization of a wettable surface modified aromatic polyethersulphone using glow discharge induced HEMA-graft polymerisation 290
Theobald N, Lange W, Gählert W, Renner F: Mass spectrometric investigations of water extracts of the river Elbe for the determination of potential inputs of pollutants into the North Sea 50
Theobald N, Rave A, Jerzycki-Brandes K: Input of hydrocarbons into the North Sea by the river Elbe 83
Theodossiu W, Baumann H, Markwitz A, Bethge K: Characterisation of ^{13}C implantations in silicon by NRA [$^{13}C(p,\gamma)^{14}N$] and RBS 483
Thier B → Paulus H
Thomas LK → Scherübl T
Trappe C → Schütze M
Triftshäuser W → Uhlmann K
Tsoga A → Grübmeier H

Uebing C, Viefhaus H, Grabke HJ: Surface cosegregation on Fe-3%V-C, Fe-3%V-C,N and Fe-15%Cr-N (110) single crystals 254
Uhlmann K, Triftshäuser W, Kögel G, Sperr P, Britton DT, Zecca A, Brusa RS, Karwasz G: A concept of a scanning positron microscope 594

Vago E → Weldige K de
Vago ER, Weldige K de, Rohwerder M, Stratmann M: Electroreduction of oxygen on octadecylmercaptan self-assembled monolayers 316
Vanderbiesen V → Zhang X
Vanholder R → Zhang X
Varga P → Biedermann A
Verucchi R → Procop M
Viefhaus H → Dennert R
Viefhaus H → Maier MR

Viefhaus H → Uebing C
Viefhaus H → Weldige K de
Vilímec J → Medek J
Voss J → Kunz C
Vymazalová E → Medek J

Wagner H → Gastel M
Wagner W, Neelmeijer C: External proton beam analysis of layered objects 297
Wahl M, Koch D, Berthold W, Wucher A: Relative elemental sensitivity factors in non-resonant laser-SNMS 354
Walther A → Dittrich K
Wandel K → Procop M
Wegener T → Preuß A
Wehner B → Krawietz R
Wei W-C, Yang M-H: Determination of phosphorus and arsenic in trichlorosilane by electrothermal vaporization-inductively coupled plasma mass spectrometry with prior concentration by cuprous chloride 167
Weil L → Franke C
Weimar U → Joerger R
Weinbruch S → Wilhartitz P
Weis T → Reichl BM
Weise K → Baumann W
Weisgerber A → Paulus H
Weldige K de, Rohwerder M, Vago E, Viefhaus H, Stratmann M: Adsorption of self-assembled monolayers of mercaptan on gold 329
Weldige K de → Vago ER
Wendler I → Schramel P
Wendrock H → Dietsch R
Wesner DA, Pfleging W, Klotzbücher T, Kreutz EW: Surface analysis of films and film systems produced by pulsed laser deposition 729
Wielunski M → Bubert H
Wilhartitz P, Krismer R, Hutter H, Grasserbauer M, Weinbruch S, Ortner HM: 3D-SIMS analysis of ultra high purity molybdenum and tungsten: a characterisation of different manufacturing techniques and products 524
Wilken R-D → Gandraß J
Will W: Determination of vinclozolin metabolites in human urine by high-performance liquid chromatography and electrochemical detection 215
Willich P, Bethke R: Performance and limitations of electron probe microanalysis applied to the characterization of coatings and layered structures 389
Wimschneider A, Heumann KG: Iodine speciation in size fractionated atmospheric particles by isotope dilution mass spectrometry 191
Wißmann P → Rauh M
Witke T → Lenk A
Wöhner T, Ecke G, Rößler H, Hofmann S: Simulation of sputter-induced roughness for depth profiling of thin film structures 447
Wokaun A → Sauer G
Wollnik H → Krummel C
Woltersdorf J → Schneider R
Wucher A → Wahl M
Wuttke W → Zahn W

Yang M-H → Wei W-C

Zagler N → Ebel H
Zahn W, Wuttke W, Zösch A: Investigation of the surface topography for the characterization of microstructures of amorphous SiN_x-coatings 364
Zander W → Holzbrecher H
Zecca A → Uhlmann K
Zehnpfennig J → Bentz JWG
Zhang X, Cornelis R, De Kimpe J, Mees L, Vanderbiesen V, Vanholder R: Determination of total arsenic in serum and packed cells of patients with renal insufficiency 143
Ziegler C → Oeter D
Zösch A → Zahn W

Short communications

Berzas Nevado JJ, Lemus Gallego JM, Buitrago Laguna P: Spectrophotometric determination of dopamine and methyldopa with metaperiodate by flow injection analysis 221
Buitrago Laguna P → Berzas Nevado JJ

Francke W → Witter B
Friesel P → Götz R

Götz R, Steiner B, Friesel P, Roch K, Reincke H, Stachel B: Polychlorinated dibenzodioxins and dibenzofurans in suspended particulate matter of the River Elbe 1994 111
Griebe T → Kuballa J

Herber U, Meisch H-U: Studies about the desorption of volatile halocarbons from activated carbon by application of static headspace gas chromatography 219

Kloster G → Kreißelmeier A
Knauth H-D → Witter B
Kreißelmeier A, Schoester M, Kloster G: Determination of surfactants in river water applying XAD-4/RP-18 extraction 109
Kuballa J, Griebe T: Sorption kinetics of tributyltin on Elbe river biofilms 105

Lemus Gallego JM → Berzas Nevado JJ

Meisch H-U → Herber U

Reincke H → Götz R
Roch K → Götz R

Schoester M → Kreißelmeier A
Stachel B → Götz R
Steiner B → Götz R

Witter B, Francke W, Knauth H-D: Investigations on the supercritical fluid extraction of spiked organic pollutants from wet soils 107

Author index 789

Subject index 791

Contents of volume 353 I–IX

Indexed in *Current Contents, Science Citation Index, Analytical Abstracts, Chemical Abstracts, BIOSIS, Aquatic Sciences and Fisheries Abstracts, Food Science and Technology Abstracts, Life Science Collection,* and *Pascal*